

PRESENTATION FRETTWORK DESIGN WITH THIS NUMBER.

Hobbies

• A. Weekly. Journal.

For Amateurs of Both Sexes.

No. 13. VOL. I.

JANUARY 11, 1896.

ONE PENNY.



Wood Carving for Amateurs.

Stamps Week by Week.

Fretwork Silhouettes.

Photographic Notes and Hints.

Bent Iron Work.

Pigeons for Pleasure and Profit.

Cycling and Athletics.

An Electric Button Hole.

How to Make Magic Lantern Slides

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DESIGN FOR FRETTWORK CALENDAR PRESENTED WITH THIS NUMBER.



PHOTOGRAPHY for Amateurs.

NOTES OF THE WEEK.

It will interest some of the readers of *Hobbies* to know that the discovery of Photography dates back from 1554, when J. B. Portia invented the "Camera Obscura." The first inventions of different processes may be given in the following order:—1801, "Nitrate of Silver," Ritter; 1798, "Chloride of Gold," Rumford; 1840, "Bichloride of Platinum," Herschel; 1803, "Chloride of Mercury," Boullay; 1845, "Salts of Iron," Herschel; 1843, "Chromate of Copper," Hunt; 1802, "Oxide of Lead," H. Davy; 1823, "Manganese," Michael Faraday; 1844, "Nitrate of Nickel," Hunt; 1838, "Bichromate of Potash," Mongo Poutar; 1809, "Chlorine and Hydrogen," Gus Lussac; 1814, "Resinous bodies—Heliography" Niepce; 1850, "Collodion," Le Gray; 1838, "Carbon Process," Mongo Poutar; 1866, "Gelatino Chloride of Silver," Palmer and Smith; 1878, "Platinum Hot Bath Process." We have only given the first user or inventor in each section. An enormous amount of work was done for instance from the invention of Collodion in 1850 up to 1865. We have for instance "The wet plate process," and "Pyrogallic Acid Developer" which were both invented in 1851 by Scott Archer. 1858 saw the light of the "First Dry Plate," the invention of Dr. Hill-Norris who is still alive. In 1864 "Carbon tissue" was first made by Mr. J. W. Swan, who is still with us. "Gelatino Bromide" was brought to a practical use in 1871 by Dr. Maddox, and so it will be seen by the student, that for the last half of a century busy minds have been and are at work to advance Photography, both by theory and practice. Should any of our readers wish to study the "History of Photography," we would recommend him to procure a copy of the book with this title written by Mr. W. Jerome Harrison.

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With the advent of Gelatino-Chloride printing-out papers, the combined printing, or more correctly developing and toning, bath have come quickly to the front. We are not ourselves strong supporters of the "combined bath," holding that the second process assures much better results. A well known firm, makers of printing-out-paper, have said:—"To ensure absolute purity in the whites, permanency and absence of double tones, it is necessary that the prints, taken direct from the printing frames, should be placed in a 30 grain solution

to the ounce of sulphite of soda for ten minutes, thoroughly well washed and then toned in the combined bath. The addition of the sulphite direct to the toning bath is not admissible, as it at once stops all process of toning, unless in such small quantities that there would be little beneficial effect." Sulphite of soda should not be used with the sulpho-cyanide bath.

An American exchange has been upholding the use of a special vignetter for professional Photographers, and thus summarises the advantages of vignetting:—*First*: The demand for plain printing has increased to such an extent that it becomes necessary to vignette most negatives in the camera. *Second*: The introduction of dark backgrounds makes vignetting almost a necessity, and *Third*: The public are craving for the so-called "engraved picture," and white backgrounds do not give this result. The apparatus recommended is described as follows:—"A hood is attached to the lens and projects out, forming a shield, while attached to it is a sliding piece with serrated edge, which may be put at any angle, any height, and, in fact, in any position, being adjusted by means of chains at the back of the camera. Thus, without any trouble, the operator, while examining the image on the ground glass, can adjust the vignetter until the effect that he is aiming at is obtained."

Celluloid is largely used in connection with photographic films, and it may interest readers to know that upon applying a hot iron to the surface of celluloid "Made in Germany," it becomes powdery, whilst that of American manufacture only softens upon being subjected to the same treatment.

A writer upon Photography, Mr. H. O. Warner, has said:—"If you use figures at all in landscape work, remember the wonderful power of the human figure for attracting attention—no matter how small the figure is—and that it should form part of the scene itself, never seeming to pose."

The Irish Tourist Association intend to hold a photographic competition and exhibition. Prizes are to be offered for photographs of Irish scenery. The scheme is being helped forward by the Photographic Society of Ireland and the Royal Dublin Society. The exhibition has been fixed for February 11th, and we understand that it will remain open until the 15th. Those wishing for further particulars should write the Hon. Secretary of the Photographic Society of Ireland, Dublin.

Mr. Paul Lange, ex-President of the Liverpool Amateur Photographic Association, considers the size for a hand camera should not be less than quarter-plate, and the lens about $5\frac{1}{2}$ inches focus. The camera should be as simple as possible, without any bright brass work outside to attract attention. One of the great difficulties for beginners is to hold the camera steady when the exposure is being made, and another great point is not to take too many plates, or carelessness might ensue. Concluding a recent lecture Mr. Lange said:—"He was sure that Photography was the most useful and instructive of all Hobbies."

Writing upon Photographing Heads, "Technique," in *Photographic Scraps*, thus describes how to do work in an ordinary room long enough to permit of using a long focus lens. He says:—"Placing the model in the best lit corner, I stand the camera in that corner near the windows which gives me the longest diagonal of the room, some six to seven yards apart, and arranging matters so as not to obstruct the door, I can then leave the camera safe in its corner whilst I pose the model. The room described is a drawing room; by hoisting the blinds up to the top and just drawing the lace curtains over the three windows, I can get a very equal lighting, when the sun is not on that side of the house. The distance I have named of some six or seven yards between camera and model, enables me to use very long focus lenses up to eighteen inches, which will give a good sized head at that distance, and allows of going nearer to obtain very large heads. The use of long focus lenses becomes absolutely necessary if we seek to obtain uniformity of definition along with absence of distortion. At a given distance with a given lens, at only a few feet from the model, it will be found difficult, and sometimes impossible to obtain anything approaching equality in definition, and the effects of exaggeration of prominent parts will be fatal to success. When attempting to take a large head in a cramped space with a short focus lens, as fast as we can get one feature in good focus another goes out of focus, and no compromise is possible except to produce a fuzzy negative which is sharp nowhere. . . . Before commencing to take large heads direct, several things have to be arranged. Backgrounds will be required, and a number should be made of different tones or colours, to suit varying complexions or types of features, and to obtain any desired effect as regards principal lighting and relief. Sheets of strawboard, of large size, and each with the hole punched in corners to hang up on nails behind the head, will act satisfactorily. They may be coated with distemper of any shade or colour from black to white, and probably half a dozen such backgrounds will meet all requirements. We shall refer to the subject of Photographing Heads in a future number.

At this season of the year, when "Jack Frost" may be expected, the photographing of frost pictures is a pleasing pastime. In the last number of the *Strand Magazine* there are a splendid series of reproductions of frost Photographs, taken by Mr. J. Leadbeater, of Rotherham, who has for years made this branch of Photography his "hobby."

Photographic Hints for Amateurs.

BROWN STAINS AFTER INTENSIFICATION.

The reason why brown stains appear after intensification is because the negative has not been thoroughly freed from Hypo. The stains cannot be removed.

DARK ROOM ILLUMINATION.

If ruby or canary paper or medium is used to block white light, either natural or artificial, it should be renewed from time to time. The paper, particularly when exposed to sunlight, fades quickly, and a fogged plate is likely to result.

PRINTING ON SCHOLZIG'S MATT-SURFACE PAPER.

This paper should be printed in diffused light only, until detail in the shadows is quite lost, and it will then yield rich purple tones. For engraving black tones, printing under green glass may be resorted to, and the prints should be decidedly over-printed. The washing of prints before toning may be reduced to a minimum, just a rinse in one water being sufficient. Prolonged washing will spoil the depth and richness of tone.

DEVELOPER FOR INSTANTANEOUS WORK.

When using the following, mix one part of A with three parts of B.

Solution A.

Metol	...	...	40 grains.
Hydro-quinone	...	...	60 grains.
Sodium Sulphite	...	1 ounce.	
Distilled Water (to make)		10 ounces.	

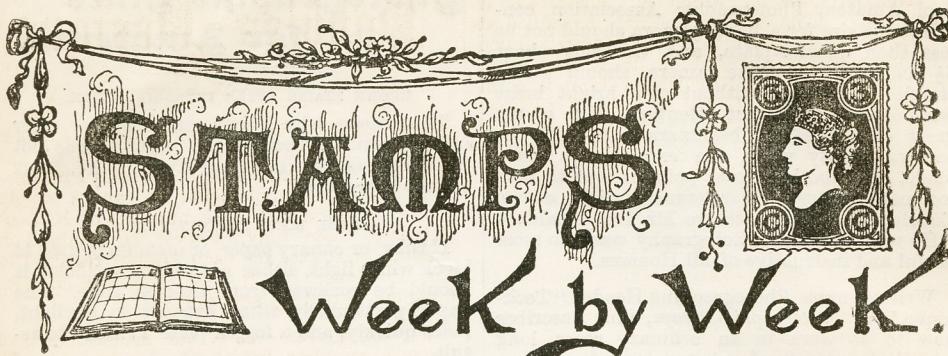
Solution B.

Sodium Tribasic Phosphate	150 grains.
Distilled Water (to make)	10 ounces.

For time exposures add one grain of Bromide per ounce.

PHOTO-SCULPTURE.

The following is taken from a German photographic journal:—"If any object, such as a plaster bust, is illuminated by a strong light, and a perpendicular straight-edge is interposed between the light and the bust, this will be divided into two halves, one bright and the other in shadow. On the boundary of the light and shade we have a line, which we call the light line, and which corresponds to a section through the bust. If the bust is placed on a turn-table and revolved on its axis, a number of such sections can be obtained, which group themselves around a perpendicular axis. To reproduce a bust about twenty-four such sections are photographed, the camera being placed at an angle of forty-five degrees with the light so arranged that the plane of the ground glass is parallel to the direction of the light. Prints are made on blue paper, which is afterward steeped in paraffin wax or water-glass to make it stiff, and the outlines cut out with a pair of scissors, so as to form silhouettes. These are placed perpendicularly in slits in an upright rod, the angles between the paper being the same as the angles through which the turn-table was revolved when making the Photographs. The whole can now be filled up level with the outlines, with clay or plaster, and the bust is complete."



STAMPS Week by Week.

A Philatelic Causerie by PERCY C. BISHOP,

Joint Editor of the "STAMP COLLECTORS' FORTNIGHTLY," Ex-Editor of "THE PHILATELIC JOURNAL" and "PHILATELIC REVIEW OF REVIEWS," General Secretary of the LONDON PHILATELIC CLUB.

GERMANY threatens us with a small revolution in postal administration. Postage stamps are to go by the board, and in their place we shall have automatic letter-boxes of fearful and wonderful make, which will mark each letter dropped into them with the amount required for its postage, and will also register the total postage due for all the letters posted. At first glance the scheme looks promising. The Government would save all the cost of preparing and distributing stamps, and further the public would be spared all the bother of procuring stamps and affixing them to their letters. Yet another advantage would be the Government's absolute security against that particular form of fraud known as "stamp cleaning," by means of which the same stamp is frequently made to do duty more than once. But the idea is too good, too Utopian, to be true; and if adopted at all, the scheme will probably only apply to very large business establishments, in which case, I suppose, the firm would hold the machine from the Government, much as a British Gas consumer holds his meter from the Gas Company.

Thus, the suggested innovation does not portend the disappearance of the harmless necessary stamp, though for that matter the great majority of Philatelists would regard this as a consummation devoutly to be wished. There are quite enough stamps already in existence to keep us all busy till the crack of doom.

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The forthcoming Ecuador Commemorative stamps, the stamps (?) of the Formosan Republic, and the recently issued and most unnecessary varieties of the stamps of Tonga are now duly black-listed by the Society for the Suppression of Speculative Stamps. The same body announces, in its latest circular, that enquiries addressed to an official quarter in Sweden have elicited the fact that there is absolutely no truth in the announce-

ment of a forthcoming issue of Swedish commemorative stamps. This is good news indeed!

Many Philatelists who are taking seriously to the study of the stamps of Greece would rejoice to hear that the Greek "Olympic" issue was equally a myth. But that is too much to hope for. The Greeks are well advanced with the preparations for their grand "Olympian Games" issue, the true character of which was sufficiently revealed by the revelations I was able to make last week.

I now learn, from a reliable correspondent at Athens, that the stamps will be eight in number, each representing some scene characteristic of the Ancient Athletic Carnival which it is now sought to revive.

—:o:—



More than one reader of *Hobbies* seeks information concerning American Local stamps. Now, there are Locals and Locals. There are the old Postmasters' stamps—the real "American Locals"—and there are the American Private Carriers' Stamps, which, while equally well deserving the title of American Locals, are in no sense to be considered on the same footing as such stamps as the New Haven, the Milbury, the Brattleboro', and the St. Louis. Of the stamps described in various albums as "Special or Private Offices," and in Gibbons' latest catalogue as "Private Local Offices," I warn all readers to beware. An immense quantity of fac similes are in existence, these being openly dealt in until a very few years ago by dealers of the highest standing. On the other hand the Postmasters' stamps are such as a Yankee would call "gilt-edged." The prices quoted for them are high and are con-

stantly rising. The rarest of all is the New Haven envelope, of which an illustration is annexed. This envelope, entire, is valued at £500, although I do not remember any specimen having actually changed hands at that price. A close rival of the New Haven stamp in point of rarity is the St. Louis, of which a specimen has recently changed hands at the unprecedented price of 2,500 dollars, or about £500. A recent "find" of these stamps at Louisville has opened the way for fresh research into their history, but of this more anon.

—o:—

With what rapidity a stamp which is discovered to be rare rises in price may be seen at a glance by reference to "Hilckes' Auction Summary," just published at 2s. 6d. by Hilckes and Co., Limited, 64, Cheapside, London. This most useful little book gives a complete epitome of prices realised at auction sales of rare foreign stamps during the season 1894-95. Thus to select an instance from the "A's," the 6d. green unperfected Antigua unused, which sold on Dec. 17th, 1894, for £3 had risen by May 15th, 1895, to £6 5s. Throughout all the stamps of the West Indies the same phenomenal advances are to be noted. Look at the record of the 4d. blue Montserrat, with "C.A." watermark.

	£ s. d.
Nov. 28th, 1894	.. 1 4 0
Jan. 10th, 1895	.. 3 10 0
Jan. 23rd, 1895	.. 3 7 6
Feb. 20th, 1895	.. 5 0 0
May 1st, 1895	.. 4 5 0
May 15th, 1895	.. 3 10 0
June 19th, 1895	.. 5 0 0

A striking instance of the sensitiveness of the Philatelic market is afforded by the course of prices for the 5s. Barbadoes stamp. In December, 1894, the rumour got about that this stamp had become obsolete, and the price at once began to rise. Then came a contradiction of the rumour from an authoritative source, and down went the price a point or two. Then again the stamp was declared to be obsolete, and presto! there was at once a recovery. At present although there is still some uncertainty as to whether the stamp is still in issue or not; the price is steady at about £1 12s. Od. for a used copy.

STAMP COLLECTORS



Should send **1d.** Stamp to **HARRY HILCKES & Co., Ld.**, 64, Cheapside, London, e.c., for "Specimen" copy of **Stamp Collectors' Fortnightly**. Contains articles for beginners, as well as for advanced Collectors.

THE BEST STAMP PAPER GOING!

TAKE YOUR CHOICE, { SET OF 19 FRENCH COLONIALS, OR GRATIS { SET OF 5 BOLIVIA, 1894. 1c. TO 20c.
 Either ONE of above fine sets will be presented GRATIS to every purchaser of our Special "XMAS" Packet, containing 96 Stamps, all different, including Perak, large tiger head, just issued; Chili, 20 c. black, scarce; Spain, 1879; Canada, 8 c.; Java; Argentine; Cyprus; U.S. Unpaid, obsolete; Jamaica; Hyderabad; Swan River; Egypt, official; Zambezia, new; Travancore; Italy, Parcel Post; Guatemala, bird; Congo Free State, magnificent view of bay; &c., &c. Free. **1/1.** Selections sent on application, liberal discount allowed. Grand NEW Illustrated Catalogue, **Free**, for Collectors; or Wholesale List with Addenda for Dealers. **FREE**, Exchange Circular—largest published 16 pages. **Free**, 3d.

FISHER, TITLEY & Co., Stamp Importers, BATH.

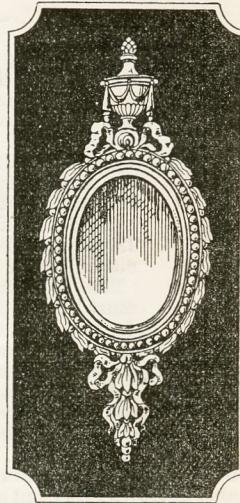
'Hobbies' Designs.



WING to the very heavy expense involved in the production of the Designs forming our Weekly Presentation Supplements, we cannot supply these with back numbers of *Hobbies*.

Copies of them may, however, be obtained on sending **threepence** for each Design required to the Publisher of *Hobbies*, Bouvierie House, Salisbury Square, London, E.C.

For the convenience of our readers we give below a complete list of the Designs already published.



No. 6. ADAMS FRAME FOR CARVING.

1. Midget Photo Frame, with Overlay Ornament.
2. "Aphrodite" Mirror Bracket.
3. Bent Iron Work Gong Stand.
4. Hanging Twine Box, with Overlay Ornament.
5. "Card" Inkstand.
6. Carved Adams Frame.
7. "Gasalier" Bracket.
8. Bent Iron Work Table Stand, for Cards, etc.
9. Carved Lamp Bracket.
10. Model of a Victoria.
11. "Toilet Glass" Cabinet Photo Frame.
12. "Swing-Boat" Match Holder.
13. Hanging Fretwork Calendar.

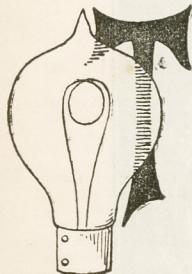
The following Designs are in preparation—

14. Bent Iron Work Grill Panel.
15. Carved Blotting Book Cover.
16. Prize Card Receiver.

NOTE.—The Patterns not otherwise designated are Fretwork.



A BUTTON HOLE (FLOWER) LAMP.



HIS little Lamp is designed somewhat on the principle of the "Electric Scarf Pin" described in *Hobbies* No. 1. If tastefully arranged in the centre of a small bouquet of flowers, it has a most beautiful effect. The Lamp may be worn by either lady or gentleman.

The following articles must be procured—a 4 volt Electric Fairy

Lamp (these can be purchased in almost any colour); a piece of copper or brass tubing, three inches long by $\frac{1}{8}$ inch in diameter; a few inches of No. 20 brass wire; and about a yard of No. 22 flexible twin Electric Light wire (this can also be had in different colours). All these articles can be bought from any electrician. In the first number of *Hobbies* very full instructions were given for making a Simple Accumulator, by the aid of which very many effective little pieces of Electric Light Jewellery may be constructed. This Accumulator will answer admirably for the pretty ornament which we now describe. A large number of readers of *Hobbies* have informed us that they have constructed, with complete success, the Accumulator and the Electric Scarf Pin, particulars of which were given at the same time. We confidently recommend all who have any taste for Electrical work, and who possess the small amount of mechanical skill which is required, to undertake the manufacture of the simple Electrical novelties which will, from time to time, be described in these pages.

To make the present article, first cut off three pieces of the brass wire an inch long, and solder them to one end of the tube at equal distances from each other, so as to make a three-pronged holder; these prongs must be bent to fit the shape of the Lamp. The tube and prongs will look better if enamelled in some dark green tint, so as to harmonise with the colour of the foliage. The tube will require to be slightly bent.

Take the lamp and flexible wire and join them by separating the wires and hooking them on the Lamp loops. If the wires of the Lamp

are not looped, but left straight, the flexible wires must be soldered to them; in either case the joints must be separately covered with silk, and then the whole covered with the cement. The Lamp should now be tested; this is done by connecting the free ends of the flexible wire with the Accumulator terminals, when, if the connections are perfect, the Lamp will glow brightly.

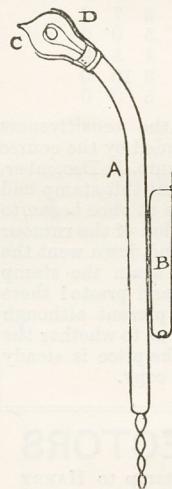


FIG. 1

scarf pin and ring.

Fig. 1.—A, Tube; B, Safety Pin for fastening to dress or coat; C, Fairy Lamp; D, Prongs.

NEW YEAR'S GIFT.



Genuine Electric Lighting Watch Set. Just the thing for dark nights and winter mornings. Lights instantly. Two powerful Batteries and handsome Brass Fittings. Will not get out of order. Price 7s. 6d., post free.—H. PRICE & Co., 4, Berry Street, Clerkenwell Road, E.C.



A COMPETITION FOR EVERYONE.

We have decided to offer Prizes for a Special Competition in which every reader of *Hobbies*, who may care to do so, will be able to take part.

We will give a Prize of ONE GUINEA for the best, and one of HALF-A-GUINEA for the second best, list of TWELVE HOBBIES suitable for treatment in this paper. The subjects which have already been written upon may be included if the Competitor thinks well to do so.

It must not be forgotten that *Hobbies* is intended to deal with the recreative occupations of ladies as well as with those of the other sex. What we wish every Competitor to do is to make a list of the Twelve Hobbies which he or she may think more interesting and more useful than any others, and arrange them in what may be considered the order of their importance.

The Prizes will be awarded to the lists which we regard as the most suggestive and best calculated to appeal to the interest of the largest number of our readers.

All envelopes should be marked "Suggestions Competition," and must arrive at our office not later than Saturday, February 8th.

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JUNIOR FRETEWORK COMPETITION.

In order to encourage the large number of our younger readers who have adopted Fretwork as a Hobby, we have now arranged to have a Competition for Hand Frame workers under sixteen years of age.

On the Supplement presented with No. 11 of *Hobbies* will be found the Design for a small Tablet inscribed with the word "Hobbies." For the best example of Fretwork, cut from this pattern according to the following conditions, we will give:—

A Treadle Fretsaw Machine, with Tilting Table, Dust Blower, Drill, etc., and Three Additional Prizes of One Gross of the Best Fretsaw Blades each.

CONDITIONS.

- 1.—All Competitors must be under sixteen years of age. The exact age should be stated.
- 2.—All Articles must be cut with the Hand Fretsaw Frame.
- 3.—The choice of wood is left to the Competitor, but the wood used should not be more than 3/16 inch thick.
- 4.—All Articles must be left plain, and neither polished nor varnished.
- 5.—Competitors are allowed to send in more than one article.
- 6.—A label with full name, address, and age of Competitor must be tied to the actual piece of work. Articles should be securely packed between two pieces of wood (or stout cardboard), and must be received at our Office not later than January 31st, 1896.

Address—The Editor of *Hobbies*, Bouvierie House, Salisbury Square, London, E.C.

Parcels should be marked "Junior Fretwork Competition."

In order to save ourselves the very great time and labour involved in repacking and returning the large number of Articles which we expect to receive, we have purposely selected a Pattern which will be purely a test, and which is not of any value to the Competitor when cut out. The specimens submitted will therefore not be returned.

FRETEWORK.—VICTORIA COMPETITION.

For the best Fretwork Model of a Victoria, made from the Design presented with *Hobbies* No. 10, we offer Two Prizes:—

First Prize—An "IMPERIAL" TREADLE FRETSAW, with Superior Tilting Table for Inlay Work, Vertical Drilling Attachment, and all Modern Improvements.

Second Prize—A Finely Finished Treadle Fretsaw, with Nickel-plated Tilting Table, Emery Wheel, etc.

The choice of wood, method of cutting, and all matters relating to the actual work are left entirely to the Competitor. We would strongly urge, however, that all Articles should be left plain, and that no polish, varnish, stain, or paint of any kind be used.

Every Competitor should write his or her name clearly on a label which must be attached to the Victoria itself.

Articles sent in for Competition will be returned, and in every case it must be stated clearly whether they are to be sent back by post or rail. If by post, sufficient stamps must be enclosed, and these should be affixed to the addressed label. If returnable by rail, the name of the nearest Railway Station must be clearly given.

As many of the Midget Photo Frames sent in for Competition were received in a damaged state, we would recommend that great care be taken in packing the Victorias. We can assure Competitors that their Articles will suffer no injury in our office, and that all will be returned securely packed.

As the work of unpacking and repacking these Fretwork Articles entails a great amount of labour, we must ask Competitors to adhere to our rules and suggestions as closely as possible. In the last Competition there were 60 or 70 cases either where an insufficient number of stamps or none at all were sent, and this naturally caused both delay and extra trouble.

All Articles sent in for Competition should be marked "Victoria," and must be received at our office not later than February 29th, 1896.

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PHOTOGRAPHY.

Every month we give a Prize of Ten Shillings for the best Photograph, and Five Shillings for the second best. Subject for this month—Landscape or Seascapes. Photographs cannot be returned, and we reserve the right to reproduce any of them in *Hobbies* if thought desirable. Photographs for this Competition must be sent to our office not later than January 31st, marked "Photograph."—The result of the December Competition will be announced next week.

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BENT IRON WORK AND CARVING.

With next week's issue of *Hobbies* we shall give away a handsome Design for a Bent Iron Work Grill Panel, and we shall offer Prizes for the best articles made from this. A Wood Carving Competition will also be announced shortly.

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NOTICE TO COMPETITORS.

All Articles, Sketches, etc., for Competition should be addressed to the Editor of *Hobbies*, Bouvierie House, Salisbury Square, London, E.C. The name and full address of Competitor must in every case be sent.

NOTE:—No correspondence can be entered into with Competitors, and all awards made will be final.

WOOD CARVING FOR AMATEURS

CHAP. V.—PRACTISING ON PINE.



HEN the amateur has got his outfit, and is prepared to proceed to work, he is naturally anxious to begin on some definite article which

will be more or less of an ornament. Although it may not be possible to dissuade a too eager and enthusiastic novice from adopting this course, it is but a duty to point out that the plan is a very bad one. As no young pianist could read a piece of music until he knew his notes, so no carver need attempt a regular pattern until he understands his tools. The first trial at cutting is inevitably a venture; it is practising, and to suppose that any primary effort will be an entire success is quite unreasonable. All workers must of course please themselves; there is no coercion in the matter, and the law cannot interfere with them; but it is safe to say that when they have gained experience and skill, and are asked their advice on the subject, they will certainly recommend every young beginner to follow out the plan which is about to be suggested.

Take a board of Pine wood—which need not be of the very finest quality, but which should be planed smooth—and fix it firmly to the Bench, either with the Screw or in some other convenient way. Then take the Tools one by one, and try them. First use the V; draw a straight line on the board, and proceed to make a cut with the Tool. There are three points to watch,—(1) the tool must run perfectly straight, (2) it must be



FIG. 1.

held at the same angle so as to cut at an even depth, and (3) it must be kept horizontally level,—that is, it must not be allowed to lean over to one side or the other—so that

the angular incision may be regular, as in Fig. 1. It is most important to keep an equal depth, as any error would be doubly noticeable. The actual difference in depth alone is not of so much moment, but the deeper the wedge-shaped V Tool cuts, the broader is the incision, and thus the line would become uneven. Try cutting lines in different directions, first one across the grain, then one with it, and then one diagonally

across it; also try cutting at various depths,—one-sixteenth, one-eighth, and three-sixteenths of an inch. Afterwards, try a curved line,—say the quarter of a circle; first take one which turns from right to left, and then one curving from left to right.

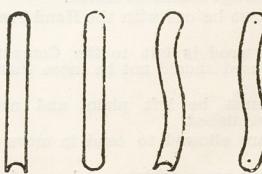
It will be found that both hands are necessary. Hold the tool firmly in the right hand, the top of the handle resting in the palm. The left fingers are placed on the blade; in some cases they hold it. The different duties of each hand will be seen when a trial cut is made. The right does the actual guiding, but the left steadies the blade, and controls its movements. From the outset, every worker should learn to use both hands; it is most advantageous to be able to pass the Tool from the right hand to the left, instead of being compelled to turn the work round.

The Chisels might next be tested. Make a perpendicular cut with the Firmer, and then, parallel to it, a bevelled line with the Skew, allowing the second cut to meet the first, and thus form an irregular V, as in Fig. 2.



FIG. 2.

The Gouges could be tried in many ways. Curved lines could be run in various directions; and flutes of different lengths, widths, and depths, could be cut. Flutes can be formed



in the ordinary way, as Fig. 3, or with rounded bases, as Fig. 4; or they may be twisted, as Figs. 5 and 6. The last named are, however, a little difficult for a first trial, and would require to be practised before being attempted in any serious work. All flutes require to be cut very clean, and the Gouges for them must be kept quite as sharp as a razor. With Pine, the Tool must have even a keener edge than with Oak or Mahogany, as any soft wood is much more liable to get frayed.

When a certain freedom in using the Tools has been acquired, a small square might be drawn on

the board, and a slight attempt at background work made. Outline the square with a Firmer Chisel, holding it perpendicular, and driving it in to the extent of one-eighth of an inch. Be careful to maintain the same depth throughout, and do not let the Chisel sway from side to side, but always keep it straight. Then take a fairly flat Gouge, and cut away the ground which lies next the outline. When this is done, the interior portion may then be removed, and the whole background worked at until it is of a uniform depth, and is as smooth as the Tools can make it. It will be pointed out afterwards that backgrounds should not always be perfectly flat, but for exercises a smooth and equal effect should be aimed at.

If a square can thus be ground satisfactorily, a circle might be tried. The work is proceeded with similarly, except that a Gouge is used for the outline, instead of a Chisel. The largest size which the amateur possesses will be found most useful, but this naturally depends on the section, which should be as near as possible to the curve of the circle.

If the worker is not by this time dying to get past exercises and studies, he might try a circle band. Describe two circles, one within another, and cut away the portion which lies between the lines. (Fig. 7.) This is a useful lesson, as both outlines are different, and the removal of the background is more difficult to accomplish than in the previous cases. Here, for a change, a punched ground might be tried. Hold the Punch in the left hand, and give it a sharp rap with the Mallet. Do not hit too hard, but just with sufficient force to indent the surface. Make no attempt at regularity, but punch here, there, and everywhere, so as to remove all appearance of mechanism in the work. At the same time let there be no carelessness, for it must be remembered that punching has its meaning.

If several of these exercises are persevered in, the worker will have gained a good knowledge of his tools, and will have an idea of which one to pick up when the real work begins. He will also, of necessity, have had a lesson in sharpening, for it is incredible that the Tools could do all this work without having to receive some little attention. The moment a blade begins to cut a rough and ragged edge, it should be stropped, or sharpened if necessary. The best plan is to use the strop constantly, and in this way the Slips are much less often required, and grinding will become a duty which only needs to be performed on very rare occasions.

This chapter, with its dry details, and uninviting suggestions, may be ignored by youthful beginners who will not hear of anything in the way of stale exercises stepping in between them and some dearly fancied pattern; but it may be repeated with confidence that all experienced carvers will echo the advice that at least a little diligent study should precede any serious piece of work.

(To be continued.)

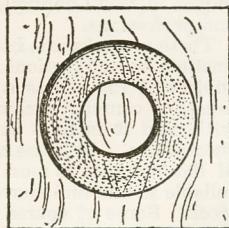


FIG. 7.

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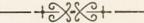
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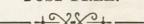
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INTRODUCTORY REMARKS.



THE chief object of these articles on Pigeons is to induce those readers who have no favourite hobby to try their hands at Pigeons. It may be contended with a certain amount of confidence that of all pets or hobbies, Pigeons give the least trouble and pay the best. It has been said that the true Pigeon fancier is born, not made,

but it is generally admitted (and an effort to prove it will be made in the course of these articles) that, providing a judicious purchase of the true strain is made from a trustworthy fancier or well-known breeder, with patience and perseverance Pigeons can certainly be kept with profit. In the first place it must be borne in mind that good birds can only be procured at a good price, but the nucleus of a good strain once obtained, the would-be fancier or Pigeon breeder can go on with every prospect of success in the Fancy world or Show pen. Like the writer, there are, at the present time, thousands of people who find great pleasure in this hobby, and although their endeavours to bring their Pigeons to a high state of perfection requires much time and care, thought and patience, taken as a whole the hobby proves both interesting and profitable. In fact, the writer knows personally several Pigeon fanciers who make not less than £100 to £130 by their "hobby." Never before in the annals of the Pigeon fancy were there such opportunities of exhibiting birds with a chance of winning valuable prizes. Here it may be stated that it is impossible to make any real mark in the Pigeon world without exhibiting in some shape or form. Comparison admittedly affords the best test of merit, and the only way to breed correctly, and keep up-to-date in the Pigeon fancy, is to make free use of the Show pen. This is a veritable school in which the correct colours, points, markings, shape, etc., are tested by competent judges. But it is not only by prizes, but by sales that Pigeons are made remunerative. Shows are the greatest possible help towards selling really good birds, and after exhibitions like the Dairy and Palace Shows birds change hands at prices varying from £5 to £50. If properly managed, with a little experience fancy pigeons can be made a considerable source of profit; in fact there are men who after many years' experience have thrown up their profession or business and are

now devoting their whole time to the Pigeon fancy, whilst amongst breeders of to-day we have for judges and supporters—barristers, solicitors, doctors, clergymen (a prison chaplain in the North of England being one of the best judges in this Country), and men of all trades and professions.

These remarks are, however, merely an introduction to the serious consideration of the subject of Pigeons as a Hobby. The beginner must, of course, purchase some stock to begin with, and it is here that the great secret of success lies. As is the case with all descriptions of live stock, it is most important to obtain a reliable strain, and above all to secure pure bred stock. Some of course may only wish to rear Pigeons for pies, &c. To these it will be sufficient to say that with good birds and ordinary luck, and with a little care and attention, one can soon fill a good sized loft. The reader who thinks of taking up to Pigeons as a Hobby will do well to visit as often as possible some of the Shows, and he will thus learn much as to the correct kind to breed, and will be able to examine the points of the winning birds, and to make notes for his guidance. Above all do not go in for more than one or two varieties. Do not be in too great a hurry to succeed, and do not be disheartened at your non-success. Let the young pigeon fancier stick closely to his hobby, and by perseverance and careful observation he will overcome the many obstacles which will inevitably cross his path. Pigeons do not need any particular delicacy in handling, and the birds will take the entire care and responsibility of their young until they are able to feed themselves; they, consequently, do not require the constant care and attention which have to be given to chickens or rabbits. Once we understand their habits they give very little trouble.

Space will not permit a full description of all the varieties of Pigeons, but the field of selection is a very wide one. A pair of birds may be purchased for a few shillings, or may cost as many pounds, but it pays in the long run to purchase really good specimens rather than birds of a mediocre kind. The most expensive Pigeon is the Carrier, with its long head, eye, and beak wattle. Then comes the Dragon (which has the merit of being the best feeder of all Pigeons); this is a very beautiful bird, and is characterised by exquisite symmetry of form.

Dragons require but little trouble, and need scarcely any attention in rearing. Tumblers, whether long or short-faced, are also splendid birds, and are bred in many lovely colours. The Pouter, though an attractive bird, with great length of limb, slender body, and a peculiar spherical shaped crop, is not to be recommended to beginners. Fantails are a pretty variety having a short body with a long curved neck carried back extremely far towards the large circular tail. Jacobins have a small head with a queer-shaped "hood," and are charming in appearance. As a rule this variety give little trouble in rearing and feeding. The frilled varieties include the Owls, Turbits, Satinettes, &c., all of which have short beaks and a "frill." Antwerps are a good class of Pigeon, having massive oval heads, lovely curves, and short faces. They are also hardy, good feeders, active, and give but little trouble. Archangels are known by the splendour of their plumage, which is of a fiery, rich, metallic lustre. They breed true, are hardy, and are good feeders. Nuns are a favourite variety. They have lovely crests and white bodies, with coloured heads, flights, and tails. Magpies have beautiful coloured markings of black, red, yellow, and blue. They may safely be recommended to beginners, as they are hardy breeders and good feeders. Then we have the Toy and Foreign varieties, which will be dealt with later on. The next article will deal with the more practical side of the hobby, such as the housing, mating, feeding, and rearing of pigeons.

(To be continued.)

Our Advertising Coupon Scheme.

Every copy of our Weekly Presentation Supplement now contains a Coupon which, by special arrangement with our Advertisers, will, under the following conditions, be accepted by the Firms whose names are printed on the back of the Supplement as an equivalent of Threepence in Cash.

Each Coupon is numbered and dated, and will remain good for three months. The Coupons will be accepted in payment, not only for any articles specifically mentioned in the advertisements in our pages, but for any goods sold by the Firms who have agreed to take them.

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Further details of the scheme, with a list of Firms who have agreed to accept Coupons, will be found on the back of the Weekly Presentation Supplement. A Table shewing the system of discount from One Shilling to a Pound is also given.

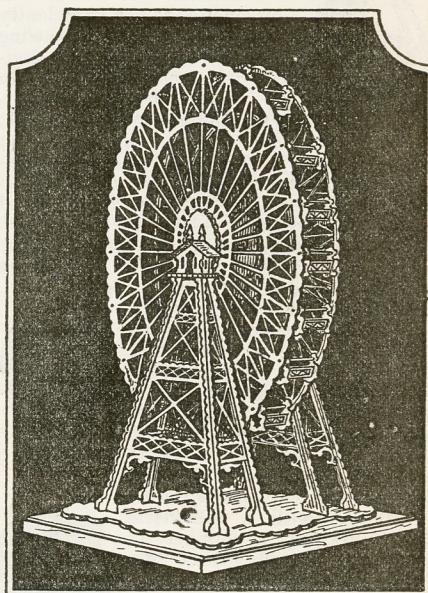
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.. FRETWORKING ..
SCROLL-SAWING, INLAY AND OVERLAYING

CHAP. XIII.—SILHOUETTES.



S promised, a chapter must be devoted to Silhouette cutting. This is another branch of Fretwork which is not sufficiently patronized, chiefly owing to the difficulty of finding good Patterns. In many books, however, Designs may be secured; mostly, perhaps, in children's picture magazines. But in weekly comic journals, and in special Christmas and Summer numbers of standard publications, can also be found sketches. In fact, almost every illustrated paper supplies, at some time or other, a drawing which could be adapted for the purpose.

As Silhouettes are solely profile, that point must be entirely looked to. The mere *outline* must fully convey the spirit of the figure. Thus, with a human face, it is apparent at once that a front view represents nothing. (See Figs. 80 and 81.) As a rule, then, a profile aspect of human figures, animals, and birds should always be selected; although with a Silhouette which contained a number of figures some less important ones could be placed "face on."

Motion is another feature. In Fig. 82 may be seen a Cabby who is standing erect, with both arms by his sides. This makes a bad Silhouette, as there is no character in it; but set him moving, and the figure at once means something.

So with animals; legs, for instance, should always be placed apart, so that there is a space between them. Otherwise they will give the appearance, not of two legs, but of one leg twice as thick as it ought to be. With birds, again, if the wings are badly arranged, no one could tell what the Silhouette is meant for.

Fretworkers are warned to note these points, as Patterns do not need to be taken from the usual blackened Diagrams, which are specially designed. Ordinary drawings may be used, and it is in

these cases where particular attention must be paid to the outline.

PORTRAITS.

Silhouette likenesses are often very effective, and may be secured without much trouble. If the reader can draw skilfully he is independent of all artificial methods, but if not two plans may be submitted, whereby Fretwork articles can be decorated with portraits.

The familiar way is to place the head between some strong light and a wall. A sheet of paper is fixed up where the shadow is; or, rather, the paper is first tacked up, and then the shadow thrown upon it. The victim stands motionless for

a few minutes, while someone traces his or her profile on the sheet. If the features are other than Grecian, any few irregularities may be smoothed over, so long as the expression is not destroyed. On the whole it is more satisfactory to sketch the person as he is—Greek or no Greek. Caricatures may be obtained by placing the light at a considerable angle; when the nose is prominent the result is very ludicrous.



FIG. 80.



FIG. 81.



FIG. 82.

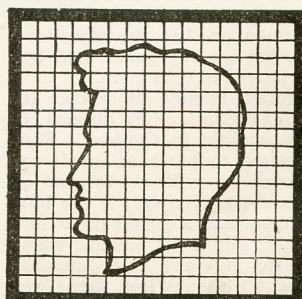


FIG. 84.



FIG. 85.

The next proceeding is to reduce the outline to a reasonable size, and there are two ways of doing

this. If Fig. 84 is the head as traced on the sheet, draw lines across it as shewn—say one inch apart. If the actual Silhouette is to be one-half full size, rule similar lines on another piece of paper (as Fig. 85), half an inch apart, and proceed to draw. The squares will act as a guide, and one can hardly fail to make a satisfactory reproduction.

The other method is by using the Pantograph, a simple instrument for enlarging and reducing drawings. Some readers will doubtless possess one of these; but those who have not are hardly recommended to go to the expense of purchasing one. They can be had from a shilling or so upwards, but cheap ones are very shaky and give uncertain results. A really useful instrument could not be bought for less than six or seven shillings.

Those who are going in seriously for Silhouette likeness-making will find Photography by far the most profitable plan, and the investment in a small Camera would well repay the cost. One distinct advantage is that it does not matter how badly the photograph is taken, so long as the outline is visible. Over or under exposure need not cause distress, and there is no necessity for toning, or even fixing. Only a mere profile is wanted, and all defective plates and soiled paper can be used for the purpose. A further advantage is that whole figures may be taken; and with an instantaneous lens some capital attitudes could be secured. Indeed, if the Fretworker has a Camera, he need not hunt through books and magazines for any Silhouette Patterns.

WOOD.

Wood of one-sixteenth-inch thickness will be found very convenient for Silhouettes. If they are wanted black, it is not worth while to buy Ebony, which is rather expensive, and is, moreover, difficult to saw. Any cheap, close-grained wood will do, and it can afterwards get two or three coats of Ebony stain or Indian Ink.

For general purposes it is better to work with Veneers, particularly as these can be obtained any colour, and as a dozen or more can be cut at one time.

Silhouettes may be Inlaid, and often look extremely well in this way, especially if they are on the small side. Overlaying, however, is much simpler, and will be more widely adopted.

Although it is quite permissible to use various coloured woods for this work, the *Silhouette* idea should always be kept in mind. Thus, it is advisable to lay a black figure on a light ground, and vice-versa. Violent contrasts in this case are not ruled out of order, in fact, they are thoroughly orthodox.

DECORATION.

In a room small Silhouettes could be used to decorate a Dado band, and for this several different Patterns should be cut, so as to avoid too much repetition.



FIG. 86.

Another plan is to ornament the Frieze—that is, the portion of wall between the picture moulding and the cornice. Good subjects must be chosen for this, and the figures will need to be about eight or nine inches in height, according to the space to be filled. If the groundwork is light, different varieties of dark woods should be chosen

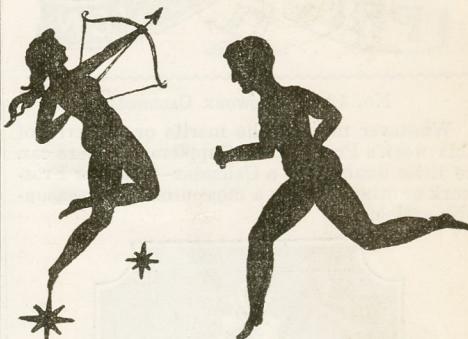


FIG. 87.

FIG. 88.

Plain wooden Mantelpieces could also be decorated; but there is no need to enumerate all the purposes for which Silhouettes may be used. If the Fretworker can secure good Patterns, he will have no difficulty in putting them to a worthy use.

When the Design is in a book which cannot be destroyed, procure a piece of ordinary tracing paper and copy the outline carefully. If it be in a penny weekly magazine, it is no unpardonable extravagance to paste it on the wood in the usual way.

With regard to polishing or varnishing, that may be left to the Fretworker. One hint, however, may be given,—leave either the Silhouette or the background plain. It does not matter much which, but the contrast helps to heighten the effect, and makes the figure stand out better. When this course is taken, polishing or varnishing must naturally be done before the Silhouettes are glued in position.

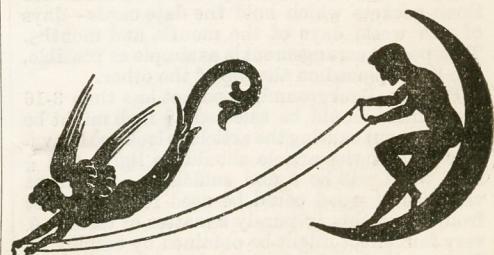
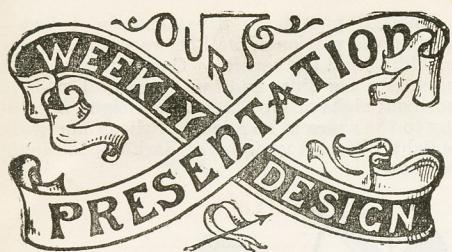


FIG. 89.

In a previous chapter a few directions on figure cutting were given; these would be applicable to Silhouettes, and need not here be repeated. Other general hints will be found in the chapters on Overlaying.



No. 13.—FRETWORK CALENDAR.

Whatever may be the merits or demerits of this week's Presentation Supplement, there can be little doubt that a Calendar—whether Fretwork or otherwise—is a most useful and seasonable article.



The calendar is arranged as a hanging wall ornament. Space is provided for a small bevelled-edge mirror, and provision is made for three pockets which hold the date cards—days of the week, days of the month, and months. This pocket arrangement is as simple as possible, one being placed on the top of the other.

For the Background, wood not less than 3-16 inch thick should be selected; $\frac{1}{4}$ inch might be used without causing the article to look too heavy. The rest of the article should be light, and $\frac{1}{8}$ inch wood will be found sufficient. Different varieties of wood could be used for the pocket fronts, but this is purely a matter of taste. A very fair effect might be obtained by employing dark wood for the background, a medium tint for the first pocket, a light one for the second, and white for the small front one. When this plan is tried, care should be taken to see that all the colours harmonise well.

We have purposely kept the Pattern simple, so that all Fretwork readers may attempt it. The fitting together should give little trouble if all the parts have been accurately sawn. When the background has been completed, and the

mirror fixed in its place, insert the two sides, the bottom, and the support of the first pocket, (week days,) glueing the notches, and if necessary screwing or nailing from behind. This done satisfactorily, place the pocket-front in position, and fix with glue and round headed brass screws. We suggest screws for this part, as the Calendar is necessarily handled every day and requires to be fairly strong.

The other two pockets are fitted in a similar manner; great care, however, must be taken to fix them on straight. If they should lean even an eighth of an inch to one side, the whole article will look absurd.

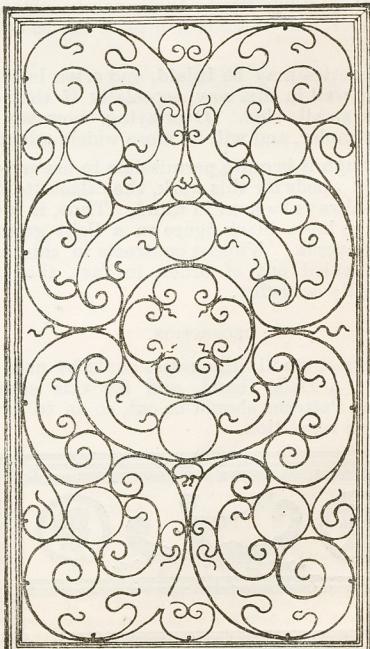
If the wood is polished at all, this should be done before the pieces are fitted together. Varnish should not be used.

The cards which we supply are made the exact size of the pockets. If required to fit loosely they may easily be cut.

[Additional copies of this Design, price threepence each, may be had from the Publisher of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The Presentation Supplements will be given during the current week of publication only, and will not be supplied with back numbers of *Hobbies*.

Bevelled-edge Oval Mirrors suitable for this Calendar, with a set of 50 printed Cards (31 figures, 7 week days, and 12 months), may be had from the Editor, price 1/3 complete, securely packed and post free. Mirrors only, 8d. post free. Cards only, 8d. post free.]

No. 14. BENT IRON WORK GRILL.



The above sketch is a miniature of the full-sized Pattern for a Bent Iron Work Grill Panel, which will be given away with each copy of next week's issue of *Hobbies*.

Items of Interest.

PAPERCHASING ON CYCLES.

Gay doings are reported from Biarritz. Bicycling is all the rage, and the weekly paperchase on wheels, headed by Lord Avonmore, is very popular.

SUNDAY GOLF IN SCOTLAND.

By 108 to 96 votes the Edinburgh Town Council has repealed a bye-law which forbade the playing of Golf on the ground of the Burgess Golfing Society. This society is composed of Burghers of the city, and therefore is controlled by the Council. The most remarkable feature about the Council's resolution is that it was passed on the motion of a member, Councillor Cranston, who personally objects to Sunday games of any kind, but he sees no reason why other people should not have the liberty to play Golf on the first day of the week if they wish to.

SPECIAL ROADS FOR CYCLISTS.

There can be little doubt that special roads or tracks for cyclists are things of the near future. The Americans are leading the way with an elevated track, 16 feet wide, between Chicago and Milwaukee, a distance of 85 miles. Such a roadway of wood and asphalt, to be used by pneumatic tyres alone, would cost very little to keep up, and if it ran between populous centres a small toll charge would soon cover the initial outlay. There is much to be done and money to be made in devising arrangements and appliances which shall render the cycle available as a means of everyday locomotion.—*World*.

IMPECUNIOUS GOVERNMENTS AND POSTAGE STAMPS.

The Record, a newspaper published at Bluefields, Nicaragua, writes:—There appears to be a paucity of postage stamps at the Post Office. A capital opportunity is thereby offered the Government to raise a round sum of money by surcharging the stamps of higher values to be sold for those currently required. Philatelists being crazy after surcharged stamps, they would make such a rush that the supply would not cope with the demand. Some months ago the Government of the State of Panama, Colombia, raised close upon 10,000 dols. by an issue of surcharged stamps, which were taken up like hot pies by collectors.

INDIAN SNAKES FOR EUROPE

It appears that the demand for Indian Snakes for European collections was never greater than at present. Every German steamer which leaves Calcutta takes hundreds to Hamburg for distribution over the Continent. During the past three months one naturalist alone, at Calcutta, has sent away over 1,800 reptiles, including Pythons over 30 feet long. The largest of these, and a Cobra measuring 14 feet, were purchased for the Zoological Gardens at Berlin. Indian Shamans are also in great demand in Germany, and, although purchasable at three rupees in Calcutta, obtain a fancy price on the Continent. Not only the commanders and officers of the Hamburg liners, but even the crews are keen on obtaining Snakes and Shamans. A German steamer left port the other day with over 500 of these Birds, and 300 Snakes.

THE CYCLE TAX IN FRANCE.

Colonel Howard Vincent, M.P., says that in the first complete year of the cycle tax in France—1894—the yield was £1,982,686f., nearly £80,000, and of this sum 25 per cent., or 455,967f. (say £18,000), was returned to the local authorities, thus giving them a direct interest in the levy. This year the amount obtained will be far larger, for the evidence of the "Salon du Cycle," filling the Palais de l'Industrie, of rows of shops in many a street devoted to the trade, of large manèges or schools, and of hirers of bicycles in every quarter is not necessary to prove the extent of the fashion in France. The beautiful roads in the Bois de Boulogne—smooth as a billiard table and dry an hour after the heaviest rain—are covered by thousands of cyclists of both sexes and all ages and degrees. No harassing regulations confront them—that they cannot go here and must go there; no time limit is put on their healthy exercise. It is doing great things, physically and commercially, for France, and the industry is making tremendous strides. If it is not the result of the tax it follows the tax. There is no serious movement against it or even for its reduction.



Supply of Back Numbers.

The first and second numbers of *Hobbies* having been long since sold out, while the demand for them shows but little sign of abatement, we have thought it advisable to have these numbers reprinted, so that recent Subscribers may be enabled to complete their volumes.

These are now ready, and copies of all back numbers may be obtained through any newsagent, price 1d. each, or direct from the publishers, price 1½d. post free.

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The Editor of "Hobbies" is always ready to receive Suggestions for Articles for insertion in the paper. Any manuscript sent for his consideration must however be accompanied by a fully addressed and stamped envelope. Unsuitable contributions will be returned without avoidable delay, but it must be distinctly understood that the Editor will not hold himself responsible for the loss of any manuscript.

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Ed. "How to Open a Cigar Store,
£20 to £22 per week." Tobacconists
Fitting Co. (Reg.), 188, Euston Rd.,
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showcase makers for all trades. (Over 50 years reputation).
Mgr., H. Myers.



CHAP. XII.—CHAINS AND RODS.

A TREATISE on Bent Iron Work is hardly complete unless it describes the method of making Chain Links. When small Baskets or Light Flower Holders have to be suspended from Wall Hooks, a brass chain is sufficient for the purpose; but with large work, where a good effect is required, it is much better to form one's own Link. And when the amateur does this, he may as well go in for something a little elaborate. No matter how plain the Link is, a long chain takes some considerable time to make; and at the expense of a little extra trouble, a much more effective ornament can be produced.

FIGURE 103.

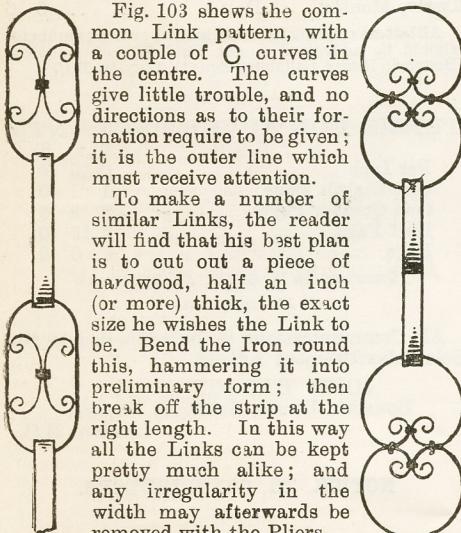


FIG. 103. In fixing the two ends of the Link, the most satisfactory method is to let about one-quarter of an inch overlap, and use the finest possible Rivet. With small Links, soldering would do; a Collar Band in this case is not recommended.

FIGURE 104.

Fig. 104 makes a useful form of Link. As it consists solely of one Pattern of C curve, there is a little monotony in making the whole Chain. But when a number of similar curves have to be formed, the worker soon gets accustomed to the "play" of his Pliers, and can turn out the

Links very quickly. The method of fixing is entirely by Collar Bands, but these must all be strengthened with Solder.

FIGURE 105.

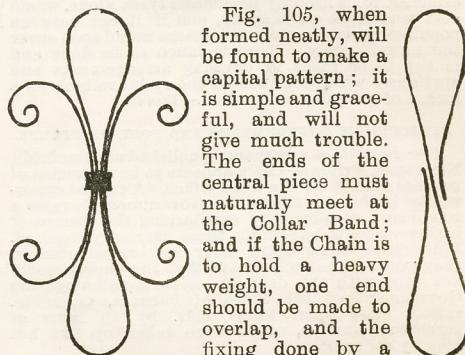


FIG. 105.

Fig. 105, when formed neatly, will be found to make a capital pattern; it is simple and graceful, and will not give much trouble. The ends of the central piece must naturally meet at the Collar Band; and if the Chain is to hold a heavy weight, one end should be made to overlap, and the fixing done by a Rivet. If the Chain, however, were purely ornamental,

FIG. 106.

this would not be necessary; otherwise it may be recommended, as an ordinary Collar Band never holds four Strips very tightly.

The best, though not the easiest, way of making the centre form of this Link is shewn in Fig. 106.

FIGURE 107.

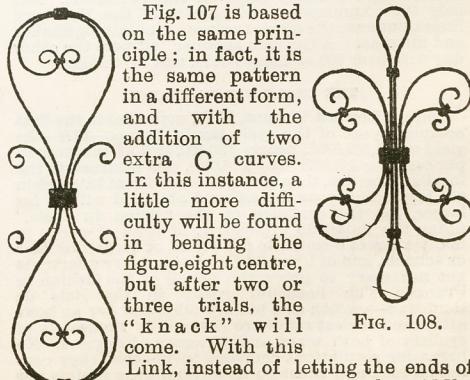


FIG. 107.

Fig. 107 is based on the same principle; in fact, it is the same pattern in a different form, and with the addition of two extra C curves. In this instance, a little more difficulty will be found in bending the figure-eight centre, but after two or three trials, the "knack" will come. With this Link, instead of letting the ends of the centre piece meet at the middle, they could be allowed to overlap either at top or bottom, and could be riveted there. This is purely a matter for the worker.

FIG. 108.



FIGURE 108.

In Fig. 108 is still seen the same method of construction. The centre is again of the figure eight persuasion, but is flattened at the middle. There is no need for a Rivet here, as the two neck Collar Bands quite prevent any chance of slipping. The two sizes of C curves are easily formed and fitted together.

With all these Links, Solder should be used at the Collar Bands, especially at those which are called upon to bear any strain. If it were desirable to have all the Links facing one way, they would be joined by means of a small Bent Iron Ring, instead of being linked to each other.

FIGURE 109.

A different variety of pattern must now be mentioned. Fig. 109 is a little more than a Link; it forms an ornament which is introduced into a Chain, usually at the centre. Procure a rod of solid Iron, say one-quarter of an inch square, and ten or twelve inches long, and have hooks turned at each end as shewn. The Strip Iron should also be one-quarter inch wide, and the Ornament may be put against all four sides of the rod, or only on two sides as indicated in the sketch. The four-sided Link is recommended, as it is decidedly more handsome.

In the bent Ornament itself there is nothing to explain, as it gives no more difficulty than may be found in any ordinary piece of Strip Iron Work. Indeed, it gives less, as there is absolutely no strain of any sort on the Ribbon Iron or on the Collar Bands, the centre rod bearing all the weight.

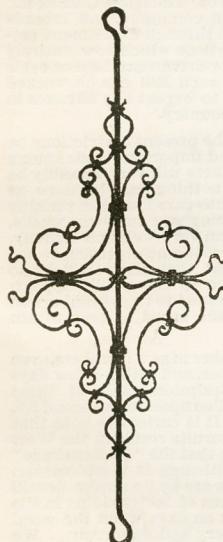


FIG. 109.

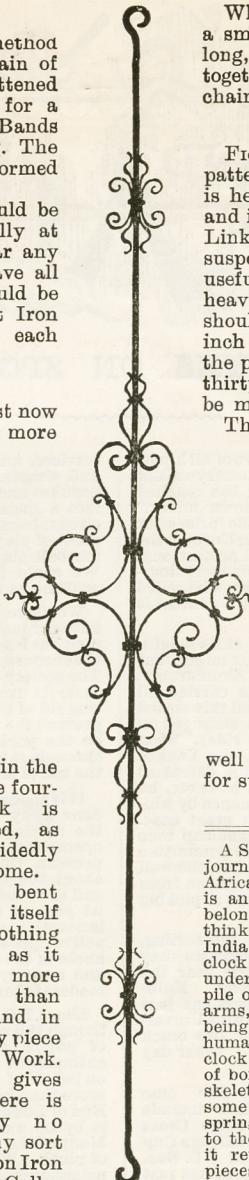


FIG. 110.

When these Ornaments are made in a small size, about six or eight inches long, half a dozen of them linked together make a strong and handsome chain for some Lamp or Flower Vase.

FIGURE 110.

FIG. 110 might be regarded as a larger pattern of this last style of Link, but it is here intended for a suspension rod, and is not meant to be used with other Links. In a bay window, it might be suspended from the soffit, and would be useful for holding a Bird's Cage, or any heavy hanging ornament. The rod should be one-quarter or three-eighths inch square, and can be of any length. For the pattern which is shewn, a bar about thirty-six or forty-two inches long would be most suitable.

The Bent Iron Ornament would again be applied to all four sides. If the rod were four or five feet long, considerable space would be left between the groups of Ornament; in this case it would be advisable to get some crafty smith to twist the Iron three or four times round at these places. This would not only relieve the bareness, but would greatly add to the whole appearance of the article.

These Rods can be ornamented in many ways, and offer great scope to the Bent Iron worker. They look extremely well in a Vestibule or Hall when used for suspending Electric or Oil Lamps.

(To be continued).

A STRANGE CLOCK.—*Machinery* is a monthly journal published at Johannesburg, South Africa. In the October number just received is an account of a most remarkable clock, belonging to a Hindoo prince, which the editor thinks the strangest piece of machinery in India. Near the dial of an ordinary looking clock is a large gong hung on poles, while underneath, scattered on the ground, is a pile of artificial human skulls, ribs, legs, and arms, the whole number of bones in the pile being equal to the number of bones in twelve human skeletons. When the hands of the clock indicate the hour of one, the number of bones needed to form a complete human skeleton come together with a snap; by some mechanical contrivance the skeleton springs up, seized a mallet, and walking up to the gong, strikes one blow. This finished, it returns to the pile and again falls to pieces. When two o'clock, two skeletons get up, and strike, while at the hours of noon and midnight, the entire heap springs up in the shape of twelve skeletons, and strikes, each one after the other, a blow on the gong, and then fall to pieces as before.

BENT IRON WORK.

Our new original Design Sheet, with prices of Iron, Copper, &c., and particulars of our New Tool, "THE IONICAL," sent on receipt of 1d. stamp.

→ BAMBOO WORK, ←

Bamboos, Panels, and every other requisite at low prices. Our New Price List and Sheet of Designs sent on receipt of 1d. stamp.

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Consisting of 74 letters, points, and ornaments, a type holder, supply of ink, pad and tweezers. Any name, &c., can be made at pleasure, and stamping books, paper, and printing cards.

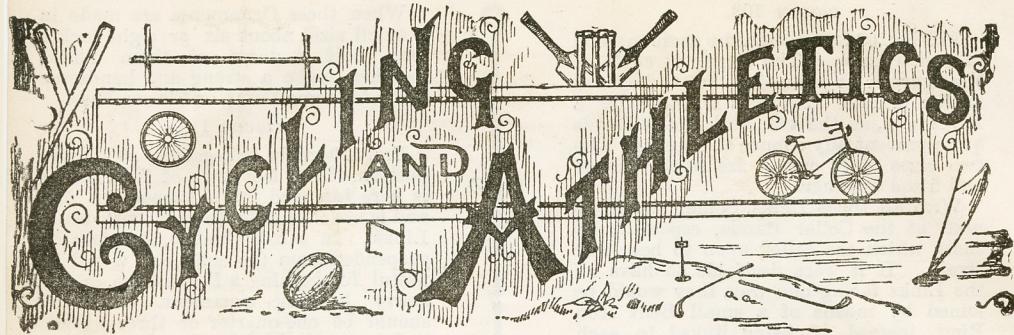
Postage sd. extra.

ILLUSTRATED CATALOGUE FREE.

N.B.—Larger Outfits can be supplied at 2/6, 3/6, and 6/6 each.



H. LINDNER, 170, Fleet Street, London, E.C.



NOTES ON SPORT.

THE Australians are great at sport of all kinds, and although the roads in the country are not much to boast of, cycle racing has reached a high stage of popularity "down under." Years before any very valuable prizes for cycle racing had been offered in Europe, the Australians had instituted a great annual professional event with a £200 "first." So well has this sport flourished that a gate of over 20,000 can always be relied on at the meeting where this well known contest is decided.

The Australian racing season is now at its height, and special interest attaches to it this year on account of the visit of the great American rider, Zimmerman. Zimmerman for the last two years has carried all before him in all parts of the world, and it is stated that his Australian campaign has been arranged on terms highly favourable to the famous rider. Soon after his arrival among the Cornstalks, the Yankee crack created a great sensation by suffering defeat at the hands of local riders. Since then, however, he has fully vindicated his right to pre-eminence by winning an important scratch race with great ease. Zimmerman did not start for the great handicap race owing, it is stated, to the fact that the Committee would not pay the price he asked. Harris, the well known English rider, and several other fast men from all parts, are also in Australia in the hopes of picking up some prize money.

Inter-University contests are always interesting, as the finest sport and the purest amateurism may always be relied on. At this time of the year the 'varsity football players are out on tour. Edinburgh University after a splendid contest has just defeated Dublin by a try to nil. The Oxford University team, with the assistance of one or two crack Blackheath players, was good enough other day to defeat Somerset.

The Thames Hare and Hounds Club has one splendid fixtures in the New Year. These include matches with both Oxford and Cambridge Cross Country Clubs. The Thames 8 miles Challenge Cup race resulted in a walk over in favour of A. L. Rye. Watkins, the Southern Counties Champion, has just begun cross country work. He will represent the Highgate Harriers in the cross country championship. In the North, the old crack, W. H. Morton, has made a surprising reappearance at long distance work, having won the 10 miles championship of the Salford Harriers. Morton in fact ran so well that it is stated that in spite of his age he is still good enough to win the Northern Counties' Championship, not the National.

Lord Derby, speaking at the dinner of the Liverpool Athletic Sports Club, made some very sensible remarks on the subject of football and amateurism. His lordship strongly condemned the present practice of a club importing paid players from all parts of the country. Where a club mainly composed of amateurs, and purporting to be the people of a town or district, was concerned, Lord Derby held that such a club should be confined to those whom in the public eye it represented. Most true lovers of sport will we think agree with his lordship. We cannot well blame the crack Association Clubs for what they are doing. The men who play for those clubs are well paid for their

services, and the whole thing is professionalism pure and simple. The interest taken in the matches is genuine and wide spread. Professional football is in fact a huge public amusement. It is better than a circus, because the competition is genuine, and payment of players depends a good deal on results. Still football played by amateurs is a very different thing. We could have wished that our greatest national pastime had been a game for amateurs.

We have heard of no fresh developments in the auto-car movement. A society of influential gentlemen has been formed in London, having for its object the encouragement of the use of "Horseless Carriages." The society has money at its command, and intends to do its utmost to get a Bill through Parliament getting rid of the absurd restrictions which now entirely prevent the use of any motor-driven carriage or cycle on the public roads. Till such Bill can be worked through, it is quite hopeless to expect any advance in the use of auto-cars in this country.

It is thought that should the present restrictions be done away with, a large and important trade among the carriage and cycle makers will very speedily be opened up, but, naturally, nothing can be done at present. One of the Paris auto-cars has been running about the suburbs of Birmingham for some weeks, and the machine is said to run very well and steadily. At present the police have made no objection to the innovation, and it is thought that there will be no active opposition to it so long as the public appearances of the machine are confined to trips in suburban and country districts, and the speed is kept within moderate limits.

The C.T.C. has quite a number of new members, even though the month is December, and within a few days of paying their first subscription each of these enthusiastic riders will be called upon for a second 3/6, on behalf of the year 1896. It is curious to note that more than half of the new recruits reside in the West End of London, thus showing that the "cycling craze" is by no means dead yet, although it is mid-winter. Many of the "Society" riders are by no means devoid of pluck. We have seen scores of ladies riding in the neighbourhood of Hyde Park on days when the wood paving was exceedingly slippery and dangerous. We were, however, forced to the conclusion that many of them did not possess sufficient cycling knowledge to really appreciate the fact that an inexperienced rider on a very greasy road, and in heavy traffic, runs considerable personal risk. Our idea is that no rider should attempt cycling in crowded streets in bad weather, unless a considerable degree of proficiency shall have been first obtained. A rider should know what side-slip means, and learn best how to avoid it before running such risks.

The N.C.U., at its Hull meeting, has once more thrown out a "Three-class Scheme," having for its object the establishment of an intermediate class of riders, who are neither amateurs nor professionals. A large number of the most prominent racing cyclists can hardly be termed amateurs, and, in one sense, many of them are not professionals. It is thought that sooner or later a go-between class for the "assisted" rider will force itself upon the Union. Either that, or else some modification of the existing amateur definition must come about sooner or later.



* The charges for advertisements (prepaid) in this page will be sixpence for every twelve words or less, name and address inclusive, and one halfpenny for every additional word. Single letters, initials and figures are each counted as a word; but undivided numbers (as 152), and prices (as 10s. 6d.) count as only one word each. In every case the name and address of the advertiser must be given for publication, and we cannot at present undertake to supply a private name or number and receive replies to advertisements at our office. All advertisements must be accompanied by remittances, otherwise they cannot be inserted. Whenever possible, payment should be made in Postal Orders, and not stamps. Letters should be marked "Advt.," and must be addressed to the Publisher, *Hobbies*, Bouvere House, Salisbury Square, London, E.C.

NOTE.—Trade Advertisements can only be inserted in this page at the rate of one shilling per line.

Banjo for sale, 6/-, post free.—John Jules, 106, Lewes Road, Brighton.

Bichromate Batteries, glass cells, powerful, 1/3. Dry Batteries, 1/3, 2/-, 3/- Incandescent Lamps, 1/6. Best quality Bells, 3/- Leclanché Batteries, 1/6.—Phillips, Manufacturing Electrical Engineers, Guildford.

Electric Bell, quart Leclanché battery, push, 50 ft. wire, staples, instructions, complete set, 4/6. Better value impossible. New catalogue, stamp.—Electric, Lord Street, Openshaw, Manchester. E. 5.

Electrical Hobbies.—Write for New Enlarged List; will just suit you; prices low; best quality.—Electric, Lord Street, Openshaw, Manchester. D. 3.

Electrical Coil and Battery.—Splendid instrument, approval, 5/-—Walker, 2, Chetwynd Street, Leeds. D. 5.

Exchange good Magic Lantern and Slides for good Treadle Fret Machine.—Heming, Whifft.

Fretworkers.—Grand chance for beginners. Great clearance of our Christmas stock of outfitts. Our 13/6 chest of tools reduced to 11/6. Sets from 8d. each. Holly reduced to 6d. sq. foot. Canary, 3d.—Lund, 70, Manningham Lane, Bradford. Lists, 1d.

Fretwoods, $\frac{1}{2}$ inch American Canary, 3d. per foot; Teak, Mahogany, 4d.—T. Carter, Lichfield. H. 2.

Foreign Stamps.—Sheets on approval,—Phoenix Stamp Co., 31, Radnor Street, Peckham.

How to learn and start a light artistic business that will produce a living without previous knowledge on the small capital of one pound. Complete instructions, post free, 12 stamps.—James, 11, Stanbury Road, Peckham, S.E.

High Class Tools.—For New Illustrated Price List, send 3d. to Osborn Brothers, Tool Merchants, 48, Fratton Street, Portsmouth. M. 8.

Improved Roger Fretsaws, 16/- Carriage paid to any Railway Station in South Wales. Star Saws 2/10/- per gross, post free.—John Hall, Castle Arcade, Cardiff.

Lantern Slides of Scarborough, Blackpool, Yarmouth, York, etc., post free, 5s. dozen. Sample Slide, 8 stamps. List free.—J. Cates, 149, Queen's Parade, Scarborough.

New Book of Instructions in gilding, graining, mixing paint, French polishing, picture-frame making, mount cutting, etc., 1,000 valuable recipes, free, 1/2.—McQuhae, Cockermouth, and all Booksellers. L. 2.

Photography.—Exchange Kombi Camera, new. Wanted, Hand Camera.—Percy George, Ashlea, Banff.

Picture-framing Outfit wanted.—State price and particulars.—F. Taylor, Althofts, Normanton.

Stamps.—St. Lucia, Bermuda, Trinidad, Tobago, Natal, Fiji, Haiti, Guatemala, Siam, Peru, Paraguay, Chili, Cuba, Mexico, St. Pierre et Miquelon, Brazil, Tunis, Transvaal, Venezuela, Western Australia. Only 1/-—Henry Box, 23, Elcot Avenue, Peckham.

Stamps.—Would be pleased to send on approval selection of rare stamps. References.—Harold Brown, Friar Lane, Nottingham.

Stamps.—Gratis, a rare Sirmoor (figure, elephant) to all applicants for my well-selected approval sheets.—John Davey, Messing, Kelvedon.

Tower Bridge Model, 50/-, or exchange Cushion Safety.—Squire Boulton, 18, Scott Street, Bradford, Yorkshire.

50 Stamps, all different, post free, 3d.—F. Sweet, Over Wallop, Stockbridge. B. 2.

2/6 Collection of Bulbs, 6 Hyacinths, 24 Crocus, 12 Single Tulips, 12 Double Tulips, 12 Narcissus, 12 Snowdrops, 12 Daffodils, 12 Iris, 12 Anemones, 12 Star of Bethlehem, 12 Wood Hyacinths, lot 2/6, as an advertisement of our Bulbs.—Theodore Turner, Great Sutton, Chester.

WOMEN COMPOSERS.—Denmark has reason to be proud of its women composers. Recently, at the exhibition of women's work in Copenhagen, eight concerts were given, the programmes of which contained only music composed and performed by women. The selection was restricted to the work of Danish artistes

ENGLISH BIRDS FOR SOUTH AFRICA.—The other day we heard of the laudable attempt of Mr. Rhodes to introduce English singing birds into South Africa. One shipment has arrived in excellent condition, and another is to follow. The little songsters are being acclimatised in Mr. Rhodes' own aviary. Another interesting move on the part of the Cape Premier is the dispersal of his flock of Angora Goats. He announces that he will part with most of the goats at cost price to any farmers who will make good use of them, and he has sent a couple as pioneers to Mashonaland

THE INTERNATIONAL BILLIARD MATCH.—The match at English Billiards, between Eugene Carter, the great cannon player, and W. J. Peall, stands postponed for a month. The articles stipulated that they should play 15,000 spot-barred level for £100 aside, commencing January 20th, £50 forfeit in the event of either failing to go on with the match. Owing to innumerable engagements, Carter has been unable to secure the practice he considers necessary on an English table, and therefore advised Peall of his willingness to pay forfeit, but the Londoner declined to take advantage of the American. Indeed, he offered any other date, and Carter proposing February 17th, the match will accordingly commence on that day.

** As we are obliged to go to press about ten days before the nominal date of publication, Advertisements must be received at our Office on Wednesday morning to ensure insertion in the following week's issue.



CHAP. I.—LANTERN SLIDE MAKING.



NE of the greatest pleasures of Photography is certainly the making of Lantern Slides. We will take it for granted that our readers have mastered the taking of a negative, and will commence this series with some instructions as to the preparation of the Lantern Slide from the negative. To do this two methods are possible—contact and reduction. We will deal first with the making of Slides by contact.

For this purpose we require—negative, printing frame, and Lantern plates. The negative

is placed in the printing frame, and a Lantern plate with the film side in contact is laid upon it, the frame is then exposed to light, and all after processes are practically identical with the preparation of the negative. The result, however, is in this case a positive.

The printing frame must of course be of such a size as to take the negative, and the Lantern plate will be placed over such portion of the negative as it is desired to reproduce. There are many special frames made, which may be purchased of any photographic dealer; and the man with a hobby will have no difficulty in fixing up something to hold both negative and Lantern plate, there being no necessity for the negative to be covered, except that portion of it which is to be reproduced as a Lantern plate. A very good frame for the purpose is known as "Wormald's," and is so constructed as to ensure great firmness in fixing the negative and placing the Lantern plate in the position required. The frame is made of hardwood, similar to an ordinary printing frame, measuring about ten by eight inches; the back has an opening the exact size of a Lantern plate, which can be so arranged as to leave exposed practically any part of the negative that is of the same area as a Lantern plate. This permits the plate to be placed in contact with the negative.

The simplest and best size of negative for Lantern Slide making is quarter-plate, or five inches by four inches; this latter size is much

affected in America, and is to be recommended because there is a sufficient margin, over and above the ordinary Lantern plate size, to secure the *best* of the subject. Oftentimes there is a little falling-off in a negative at the edges—objects in the foreground may be slightly out-of-focus, and the reproduction of this can thus be avoided. In a less degree this is so with the quarter-plate negative, which measures four and a quarter by three and a quarter inches, whilst the standard Lantern plate measures three and a quarter by three and a quarter inches.

We shall have something to say about masks and cutting down to obtain pictorial Slides later on.

The question of exposure should next be considered. This is regulated to a certain extent by the quality, i.e., density of the negative. As Lantern Slide making is a "Hobby for Winter Evenings," we will confine the question of exposure entirely to artificial light. An ordinary paraffin lamp may be used, candle, or gas jet. If either of the two former illuminants are used, they may with advantage be placed in a box with a front of some non-active medium, so that at once after the exposure has been made the white light can be shut off; but a better purpose is served if gas is laid on by using one of the several forms of self-lighting gas burners. These burners are fitted with a bye-pass, which permits of a very small jet of gas being kept alight when the tap has been turned off. This light is practically non-illuminant, and the worker need not fear the plates being "fogged." With such an arrangement the exposure can be easily made a known quantity; although from a long experience of the work of many Lantern Slide makers we much fear this is largely a matter of guess work. The great aim should be to get the *correct* exposure, being, as before said, guided by the density of the negative and the speed of the plate used. Should over exposure be given, this can, to a certain extent, be corrected by careful development, but an under exposed Lantern plate is practically useless.

In making Lantern Slides by contact and with a fixed power of illuminant, such, for instance, as a Bray's fish-tail burner, consuming five cubic feet of gas per hour, the power is known,

and placing the printing frame a given distance from the light an approximately correct exposure will result. Using a certain negative, one or two trials will be quite sufficient to render correct exposure certain. Once found and noted, success with the particular negative is thereafter assured. Mr. A. R. Dresser, a most accomplished Lantern Slide worker, gives the following rules upon the subject. He says:—

“The intensity of illumination on a given surface is *inversely* as the square of its distance from the source of light. Plainly stated, this means that if at a distance of one foot from a gas jet or paraffin lamp an exposure of five seconds is correct, the distance being increased to two feet, the corresponding exposure will be twenty seconds—the original five seconds multiplied by two squared. If the distance be increased to three feet the exposure will be five seconds—the original exposure—multiplied by three squared, or, say forty-five seconds. Stated proportionately, it stands thus:—As the original distance is to the increased distance *squared*, so is the original exposure to the length of time which it is desired to ascertain.” Mr. Dresser gives the following example to prove his case:—

$$\begin{array}{rcl} 1 & : & 3^2 \\ & \times & 5 \\ \hline & & 3^2 \end{array}$$

\times equals 1 equals 45 secs.

The question of density is one which brings into requisition the reasoning faculties of the operator. No hard and fast rule can be laid down. A dense negative may be exposed at, say, fifteen inches from the light, a thin negative at three to four feet. It will then follow that a negative of medium distance should be placed midway between these distances. The source of light may be modified by the use of obstructive mediums, such as ground glass, opal glass, tinted glass. A blue light will decrease and yellow light increase contrast. So that in practice the intervention of pale blue or yellow glass may serve a good purpose. The use of either of these methods will increase exposure, and this must be thought of.

In regard to suitable negatives for Lantern Slides, there is no doubt that the best Slides are made from “plucky” negatives with fair, but not hard, contrasts. Mr. Alfred Brookes, writing upon this particular point—“Suitable Negatives”—in *Photographic Scraps*, recently said:—“Roughly speaking, any negative which will give a good bromide enlargement is suitable for the production of a good Lantern Slide. The negative should be soft and full of detail, especially in the shadows, whilst too great density in the high lights should be carefully avoided. It should be free from physical defects, and a stained film, very often produced by not washing before fixing or by insufficient fixation, should be carefully avoided. To produce such negatives full exposure should be given, and the development should not be restrained beyond what is required to ensure moderate density.”

Now that the hand camera is so much in vogue, the making of Lantern Slides has advanced considerably. The size of the negatives permits of making Slides by contact without difficulty, and so hand cameras are largely used for Lantern pictures. Provided a rapid rectilinear lens is used, say working at f/11 or f/8, good results are obtained, but we most strongly deprecate the use of the wide angle lens and the cheap single lens when negatives are being taken for Lantern Slide work. In taking the negative it is necessary always to remember that the resulting picture will be greatly enlarged when shown upon the screen. There is nothing more grotesque than to see huge figures of children or animals, which on the negative occupy the whole field of the plate, projected on to a screen twelve or fifteen feet square. The composition of the picture when exposing negatives for the Lantern needs far more consideration than when the negative is to be printed from in the ordinary way. We shall devote considerable space to this branch in the course of this series of articles. Our next chapter will be upon Lantern Slide making by “Reduction.”

(To be continued.)

MAGIC LANTERNS & SLIDES.

The best and cheapest house for the purchase (hire or exchange) of lanterns and slides. Walter Tyler, 48, Waterloo Road, London.

Walter Tyler's new pattern helioscopic lantern is far superior to any other lantern at the same reasonable price. The demand has been so great that new machinery has been made for their production, and helioscopes can now be delivered on receipt of order. Walter Tyler, 48, Waterloo Road, London.

Oxygen and hydrogen of the very best quality, compressed, in thoroughly tested and annealed cylinders, at a much cheaper rate than any other firm can supply. Special low terms for large consumers. Walter Tyler, 94, Waterloo Road, London.

Selling off a large quantity of second-hand single biunials and triple lanterns. Call and inspect immense stock. 50, Waterloo Road, London.

Hire department is perfect. Best quality slides lent on hire cheaper than any other house. Walter Tyler, 48, Waterloo Road, London.

Walter Tyler's new catalogue, upwards of 500 pages, fully illustrated, now ready, post free, 12 stamps; smaller catalogue, 6 stamps; and second-hand lists, post free. Walter Tyler, 48, Waterloo Road, London.



WALTER TYLER,

48 to 50, and 94, WATERLOO ROAD,
LONDON, S.E.



** All communications to be answered in these columns should be marked "Correspondence," and must be addressed to the Editor of *Hobbies*, Bouvierie House, Salisbury Square, London, E.C. In no case can we reply to enquiries by post.

CORK FRAMING.

J. C. FENTON.—We have this hobby on our list.

FRETTWORK, CARVING, &c.

F. LEWIS.—Almost every day we get questions such as yours asking what we consider the value of certain articles of Fretwork, but we cannot fix the price of a piece of work which we have never seen. In Fretwork, everything depends on how the article is sawn out and fitted together. Your Great Wheel Model may easily be worth 50/- or 60/- if well done; but, on the other hand, if clumsily cut and finished, no one would advance you half a sovereign on it. You can estimate its value better than we can; do not cheat yourself, but do not overcharge others.

A. H. HOLMES.—In our design for a Victoria (No. 10) we purposely made the framework for the front wheels a fixture, as if fitted with pivot the Model might be unsteady. Of course it is open to any Fretworker to employ a pivot fixture if he so desires, but he will probably find it difficult to make it perfectly secure.

BONES.—To insert the saw for cutting veining lines, etc., such as are on the "Aphrodite" Bracket (No. 2) you require exceptionally fine drills. These can be obtained from any dealers in Fretwork materials at a trifling cost. If the lines are numerous, and very fine, an easier plan is to give the article a light coat of shellac which has been dissolved in methylated spirits, then rub down with glasspaper, and trace on the lines with Indian Ink. The shellac fills up the pores of the wood and prevents the ink from spreading.

C.H.—In the Fretwork Article of *Hobbies* No. 10, the Door Panel Design (Fig. 47) is merely a suggestive illustration, and is not published full size. At no very distant date, however, we purpose having an overlay design of this character as the subject for our Weekly Presentation Supplement.

MISCELLANEOUS.

A.B.C.—Unquestionably your best plan is to apply to some large dealer in Walking Sticks. He will give you every information. Any local dealer will give you the name of a large firm.

P. ARCHER.—Whenever we can find the "empty space" you speak of we intend to have an article on Roller Skates, when no doubt you will get the information you require.

A. FORD.—We are unable to tell you how to fix the tubing of your Syphon Fountain without a sketch of your present arrangement. If you care to send us this and repeat your question we will try and help you.

STAMPS.

REV. D.D.B.—Your 2 cents. British Guiana may or may not be the one mentioned in the list given in No. 3, but yours is used, whereas the one there described was unused, which makes all the difference in the world. Your stamp is worth not more than 2s. 6d.—perhaps considerably less.

H.C. (Heaton Moor).—Penny red plate number stabbed through in the way you describe are worthless, except in the case of the rarest numbers. You have, we see, Nos. 153 and 225. These, if otherwise perfect, should be worth from 6d. to 1s., despite the offending holes.

W.D.W.—Yes, your Cape stamp is the current issue. (2) The French Colonial hails from Indo-China. (8) The Costa Rica and U.S.A. stamps are quite genuine, but the latter is a revenue stamp, and of no value to a stamp collector.

J.H. (Sheffield).—Your stamp is a Russian Local, belonging to the district of Zienkow. It is not priced in Gibbon's, but we should say 6d. would be its utmost value. It belongs to the most recent issue of Zienkow stamps.

E.N.P. (Liverpool).—The seventeen stamps are worth about 2s. The Mauritius surcharge is quite common, as also is the Shanghai Jubilee stamp.

J.W. (Glasgow).—Many Japanese stamps bear the words "Imperial Japanese Post" in English. The Japs use not only our language, but our customs also in all their official proceedings.

ELECTRICITY.

A. JOHNSON.—When the terminal wires of an incandescent lamp are broken off flush with the glass, it is impossible to connect other wires to them without the proper machinery and tools used in a lamp factory; even then it will hardly pay you.

R. DONALD (Ayr).—You can easily get a Battery from any Electrician; try Glasgow. See answer to William H. Browning.

W. J. WEBB.—To light a model house, say five rooms each 1 foot square, you will require a light of about 1 c.p. in each; or better still, three small six volt arranged in a cluster. To light these you will require four chromic acid cells in series. You can make these from instructions given in *Hobbies* No. 2.

WILLIAM HENRY BROWNING.—Two volt lamps being used for the Christmas Tree, and these being joined up in parallel, only a two volt battery is necessary; that is, one single fluid chromic acid cell. Get a sufficiently large cell to provide the requisite volume of current, say, half an ampere per lamp. Any Electrician will supply you with a battery; the lamps can be obtained from Mr. Kew, Cottage Grove, Southsea.

PHOTOGRAPHY AND LANTERNS.

ARTHUR GRAND.—We do not quite understand your query. If you refer to a mask that can be made out of paper, possibly you mean what ingredients are used for the preparation of glass before painting upon it when making Magic Lantern Slides. Coat the glass with Canada Balsam, trimmed with turpentine, or mastic varnish very much trimmed with turpentine will make an excellent medium to work upon.

P.T.S.—We can recommend the following Hydroquinone developer, and it will no doubt be quite suitable for the plates you name, although the makers give pyro and ammonia.

No. 1.	Hydroquinone	..	..	160 grains.
	Sodium Sulphite	..	..	2 ounces.
	Citric Acid	..	..	60 grains.
	Potassium Bromide	..	..	40 grains.
	Water	..	..	to 20 ounces.
No. 2.	Sodium Hydrate	..	..	160 grains.
	Water	..	..	to 20 ounces.

Mix equal parts. In cold weather dilute with an equal quantity of water, in hot weather add an extra three or four grains of bromide of potassium.

LONDON.—We have some views of London, but they are rather disconnected, and some of them old. How many do you want? We should only ask you to pay postage or carriage.

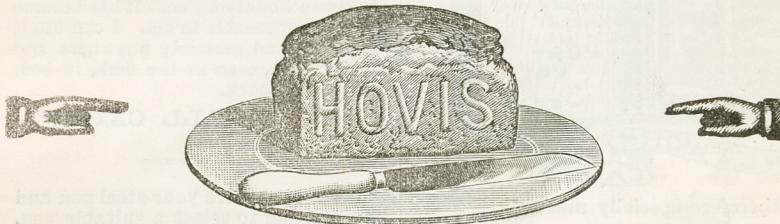
JAS. BOYLE, JUN.—See Notes and Views.

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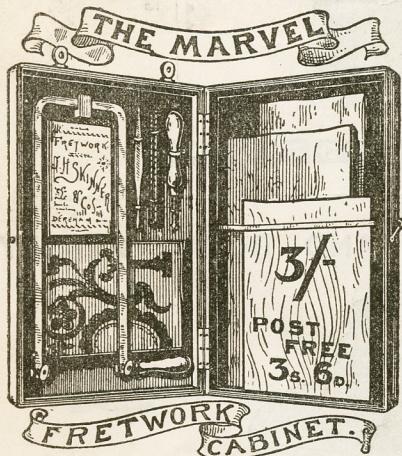
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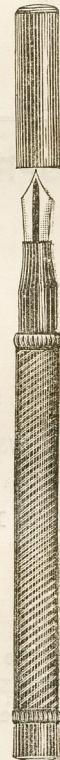
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W. D. DALRYMPLE MACLAGAN.